

23882

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: El-Shoubary, *et al.*

Docket No.: 13093

Application Serial No.: 09 723,098

Examiner: Tae H. Yoon

Filed: November 27, 2000

Group Art Unit: 1714

For: "Organo-acid Phosphate Treated Pigments"

Kalow & Springut LLP  
488 Madison Avenue, 19<sup>th</sup> Floor  
New York, NY 10022

December 4, 2002

Commissioner for Patents  
Washington, DC 20231

**RESPONSE TO NON-FINAL OFFICE ACTION**

Sir:

Applicants hereby submit this Response to Non-Final Office Action in response to the Office Action that was mailed on October 23, 2002. This response is being submitted within the allotted three-month timeframe. Consequently, no fee is due. Accompanying this submission is a marked-up copy of the set of claims that have been amended herein.

**Certificate of Mailing Under 37 C.F.R. 1.8**

I hereby declare that on the date provided below this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington D.C. 20231.

12/4/02  
December 4, 2002

  
Kim Padilla

D #13  
12/12/02  
AS

RECEIVED  
DEC 11 2002  
TC 1700

### AMENDMENTS

Please enter amended claims 39, 45, 53 and 54 and new claims 56 -67 as provided below:

39. (Amended) A polymer matrix comprising:

- a. a pigment, said pigment comprising an inorganic pigmentary base that has been treated with an organo-acid phosphate compound having the formula:



wherein  $x = 1$  or  $2$ ,  
 $y = 3 - x$ , and  
R is an organic group having from 2 to 22 carbon atoms; and

- b. a polymer, wherein said polymer is selected from the group consisting of polyethylene, copolymers of ethylene with alpha-olefins containing 4 to 12 carbon atoms, polypropylene, polycarbonates and polystyrene.

45. (Amended) A method of preparing a polymer matrix, said method comprising:

- a. combining an inorganic pigmentary base and an organo-acid phosphate compound, wherein the organo-acid phosphate compound has the formula:



wherein  $x = 1$  or  $2$ ,  
 $y = 3 - x$ , and  
R is an organic group having from 2 to 22 carbon atoms.

to form a pigment; and

- b. combining said pigment with a polymer, wherein said polymer is selected from the group consisting of polyethylene, copolymers of ethylene with

D2

alpha-olefins containing 4 to 12 carbon atoms, polypropylene,  
polycarbonates and polystyrene.

53. (Amended) A polymer matrix comprising:

- a. a pigment, said pigment comprising titanium dioxide that has been treated  
with an organo-acid phosphate compound having the formula:



wherein  $x = 1$  or  $2$ ,  
 $y = 3 - x$ , and  
R is an organic group having from 2 to 22 carbon  
atoms,

wherein within the pigment, the organo-acid phosphate compound is  
present in an amount from about 0.01 percent to about 5 percent by  
weight, based on the weight of the titanium dioxide; and

- b. a polymer, wherein said polymer is selected from the group consisting of  
polyethylene, copolymers of ethylene with alpha-olefins containing 4 to  
12 carbon atoms, polypropylene, polycarbonates and polystyrene.

54. (Amended) The polymer matrix of claim 53, wherein said polymer is polyethylene.

56. (New) The polymer matrix of claim 39, wherein said polymer is a copolymer of ethylene  
with alpha-olefins containing 4 to 12 carbon atoms.

57. (New) The polymer matrix of claim 39, wherein said polymer is polypropylene.

58. (New) The polymer matrix of claim 39, wherein said polymer is polycarbonate.

59. (New) The polymer matrix of claim 39, wherein said polymer is polystyrene.

60. (New) The method of claim 45, wherein said polymer is a copolymer of ethylene with alpha-  
olefins containing 4 to 12 carbon atoms.

61. (New) The method of claim 45, wherein said polymer is polypropylene.

D4

62. (New) The method of claim 45, wherein said polymer is polycarbonate.
63. (New) The method of claim 45, wherein said polymer is polystyrene.
64. (New) The polymer matrix of claim 53, wherein said polymer is a copolymer of ethylene with alpha-olefins containing 4 to 12 carbon atoms.
65. (New) The polymer matrix of claim 53, wherein said polymer is polypropylene.
66. (New) The polymer matrix of claim 53, wherein said polymer is polycarbonate.
67. (New) The polymer matrix of claim 53, wherein said polymer is polystyrene.

#### REMARKS

In the above captioned application, the Examiner issued a Non-Final Office Action in which he rejected claims 39 – 42, 45, 51, 53 and 55 based on certain prior art and objected to claims 43, 44, 46 – 50, 52 and 54, noting that those claims would be allowable if rewritten in independent form. Applicants respectfully traverse the outstanding rejections and objection.

In order to further prosecution, reserving the right to prosecute the previously pending claims, as well as subject matter not previously claimed, in one or more divisional and/or continuation applications, Applicants have amended claims 39, 45 and 53 to specify that that the polymer is selected from the group consisting of polyethylene, copolymers of ethylene with alpha-olefins containing 4 to 12 carbon atoms, polypropylene, polycarbonates and polystyrene. Support for this amendment is located on page 7, lines 19 -30 of the Specification. Claims 54 has been amended to change “comprises” to “is.”

New claims 56 –67 specify individual polymers from the aforementioned group. Support for these claims is also located on page 7, lines 19 -30 of the Specification.